

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Official Action dated 2 July 2004. Responsive to the rejections made in the Official Action, Claim 1 has been amended to clarify the combination of elements that forms the invention of the subject Patent Application, and Claims 10, 13, 16 and 23 have been amended to correct the language thereof.

In the Official Action, the Examiner rejected Claims 1, 12, 22 and 23 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. The Examiner indicated a number of terms which were confusing in scope. Accordingly, Claims 1 and 23 have been amended to correct the language thereof, Claims 12 and 22 having been cancelled by this Amendment. Thus, it is now believed that the Claims particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

In the Official Action, the Examiner rejected Claims 1, 10, 12, 20 and 22 under 35 U.S.C. § 102(b), as being anticipated by Soviet Union Patent Publication 618488.

Before discussing the reference relied upon by the Examiner, it is believed beneficial to first briefly review the structure of the invention of the subject Patent Application, as now claimed. The invention of the subject Patent Application is directed to the structure of an anti-shock device. The anti-shock device includes a

base adapted for coupling to a building foundation and has a first ovally-shaped slip concavity centrally formed in an upper surface thereof. The anti-shock device includes a carrier adapted for coupling to a building column and having a second ovally-shaped slip concavity centrally formed in a lower surface thereof. The carrier is disposed in proposing space relationship with respect to the base and the first and second slip concavities are aligned to define a substantially ellipsoidally-shaped cavity between the carrier and the base. The anti-shock device further includes a slide block slidably disposed in the substantially ellipsoidally-shaped cavity and has an opposing ends respectively contacting corresponding surfaces of the first and second ovally-shaped slip concavities. The slide block includes an upper slide block member and a lower slide block member. The lower slide block member has a lower surface contour slidably contacting and complimentary to the corresponding surface of the second slip concavity and a seating recess formed in an upper surface of the lower slide block member. The upper slide block member is ellipsoidally-shaped and seated in the seating recess of the lower slide block member. The upper slide block member has contact surfaces with a contour slidably contacting and complimentary to the corresponding surface of the first slip concavity.

In contradistinction, Patent Publication 618488 discloses a foundation structure for an earthquake resistant building that includes a pair of supporting feet 1 disposed in spaced relationship with a cylindrical member 2 disposed

therebetween and in supporting relationship therewith. The cylinder 2 has metal contact elements 4 disposed on opposing ends thereof which capture neoprene inserts 5 disposed between and most portions of the cylindrical member 2 and the inner surfaces of the respective contact elements 4. Similarly, each of the supporting feet 1 includes a cup 3 and a contact element 4 which capture the neoprene insert therebetween. Neither the recesses formed in the supporting feet 1 nor the recessed area of the cups 3 in which the cylindrical member 2 is disposed defines oval-shaped slip concavities that together define a substantially ellipsoidally-shaped cavity.

It is respectfully submitted that the cavity between the concavities 11 and 21 of the base 10 and the carrier 20, respectively, defines a substantially ellipsoidally-shaped contour which is important to the motion dampening of the invention of the subject Patent Application. The invention of the subject Patent Application provides dampening to displacement both laterally and rotationally. By virtue of the ellipsoidal shape of the cavity in which the slide block 30 is disposed, the greater the displacement, the greater resistive forces being applied against that motion, due to the change in dimensions of the cavity away from the center. The change in dimension changes the natural periods of the device to thereby avoid a resonance between the device and seismic forces induced by earthquake ground motions. Further, the oval shapes of the contact surfaces of the lower end of the lower slide block member 32 and the contact surface of the upper

slide block member 31 provides a large contact area for supporting the building loads and aids in the ability of the invention of the subject Patent Application to dampen seismic forces in both vertical and the two horizontal component directions of seismic forces.

Whereas, the structure of the referenced system is only designed to dampen the vertical component of seismic forces, Abstract, paragraph 3. Evidenced by the planar surface against which the contact elements 4 of the cylindrical member 2 mate with, the reference provides no restoring force mechanism by which the structure can be returned to its original position after an earthquake if there is any sliding displacement on the ends of the cylinder within the very confined recess of the cups 3. While in the invention of the subject Patent Application, the oval-shaped concavities with which the complimentary contours of the ends of the slide block 30 mate with, provide a restoring mechanism to return the structure to its original position subsequent to the cessation of seismic forces. The only oval or ellipsoidal surfaces disclosed by the reference are those which capture the neoprene inserts 5 therebetween, and those surfaces provide no surface for sliding of the cylinder 2 with respect to recesses in the supporting feet 1 or cups 3.

As the reference fails to disclose each and every one of the elements of the invention of the subject Patent Application, it cannot anticipate that invention. Further, as the reference fails to suggest such a combination of elements, it cannot make obvious that invention either.

In the Official Action, the Examiner rejected Claims 1, 12 and 22 under 35 U.S.C. § 102(b), as being anticipated by Soviet Union Patent Publication 1,705,504. The Examiner states that the reference shows a structure of an anti-shock device that includes a base 10, a carrier 3, 5, and a slip concavity of a sunken round curved recess respectively formed in the center of the base top surface and in the center of the carrier bottom surface. The Examiner further states that the slide block 11, 12 is situated between the two slip concavities and the slide block consists of an upper slide block member 12, a bottom slide block member 11, with a seating recess being respectively formed in the top surface of the lower slide block member. The Examiner states that the contact surfaces between the upper and lower slide block members and the slip concavities consist of round curved surfaces that match the curvature of the slip concavities. The Examiner states that the base of the anti-shock device is fastened onto a building foundation and the carrier is fastened to the bottom section of a building column.

It is respectfully submitted that the referenced system provides a support for dissipating seismic forces wherein the structure 3, 5 that the Examiner considers equivalent to Applicant's carrier is only pivotably/angularly displaceable with respect to the base, as any linear displacement of the column 1 causes the roller 12 to be displaced along the hemispheric surface 11, which results in angular displacement of the members 3 and 5, and the column therewith. As the surface of the hemisphere 11 is a portion of a sphere, the curvature of the slip concavity

defined thereby does not vary with respect to the distance from the center thereof, but is constant (has a constant radius). If the Examiner considers the hemispheric member 11 as being equivalent to Applicant's upper slide block member, then such fails to be in sliding contact with the corresponding concavity in the base, the semi-spheric surface member 10, as such are maintained in spaced relationship by the plurality of coil springs 9. Still further, the reference fails to disclose the concavities being ovally-shaped and the respective concavities of the carrier and base do not together form a substantially ellipsoidally-shaped cavity in which the slide block is slidably disposed.

Therefore, as the reference fails to disclose each and every one of the elements of the invention of the subject Patent Application, it cannot anticipate that invention. Further, as the reference fails to suggest such combination of elements, it cannot make obvious that invention either.

In the Official Action, the Examiner rejected Claims 13, 14, 16 and 23 under 35 U.S.C. § 103, as being unpatentable over the Soviet Union Patent Publication 1,705,504.

As previously discussed, the Patent Publication 1,705,504 fails to make obvious the structure of the invention of the subject Patent Application, as defined in Claim 1. Therefore, all of the Claims dependent thereon are patentably distinct for at least the same reasons. However, the Applicant would like to further point out distinctions defined in Claim 23 which are believed to also be patentably

distinct on their own. In the invention of the subject Patent Application, the ellipsoidally-shaped cavity defined by the pair of ovally-shaped slip concavities contributes to a displacement dampening system wherein the resistance to displacement increases with an increase in distance from the center of the concavities. That scheme may be further enhanced by changing the resistance to displacement provided by the surfaces of the concavities, such as by varying the lubricity of the surface to further increase the resistance to relative displacement between the slide block and the concavity surface and enhance the resonance resistance of the device. Nowhere does the references cited by the Examiner, or any known prior art disclose or suggest such an arrangement. The variation in lubricity cannot be considered a simple matter of engineering design choice, as there is no logical reason in any of the systems presented by the Examiner to provide such a variation in lubricity, and in fact such is counter to conventional engineering practice. Therefore, the subject matter of Claim 23 cannot be considered obvious in light of the prior art presented by the Examiner.

In the Official Action, the Examiner rejected Claims 1, 10, 12-14, 16, 20, and 22-23 under the judicially created doctrine of obviousness-type double patenting, as being unpatentable over Claims 1, 3-6, and 8-9 of Applicant's prior Patent 6,688,051. In order to overcome this rejection, Applicant has concurrently filed a Terminal Disclaimer and the necessary fee to disclaim any portion of the term of any Patent which issues from the subject Patent Application that would

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extend beyond the statutory term of U.S. Patent 6,688,051. A copy of the concurrently filed Terminal Disclaimer is attached to this Amendment.

For all of the foregoing reasons, it is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted,
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